

## § 572.40

## 49 CFR Ch. V (10–1–01 Edition)

(c) Head accelerometers shall have dimensions and response characteristics specified in drawing 78051–136, revision A, or its equivalent, and the location of their seismic mass as mounted in the skull are shown in drawing C–1709, revision D.

(d) The six axis neck transducer shall have the dimensions, response characteristics, and sensitive axis locations specified in drawing C–1709, revision D and be mounted for testing as shown in Figures 20 and 21 of § 572.33, and in the assembly drawing 78051–218, revision T.

(e) The chest accelerometers shall have the dimensions, response characteristics, and sensitive mass locations specified in drawing 78051–136, revision A or its equivalent and be mounted as shown with adaptor assembly 78051–116, revision D for assembly into 78051–218, revision T.

(f) The chest deflection transducer shall have the dimensions and response characteristics specified in drawing 78051–342, revision A or its equivalent and be mounted in the chest deflection transducer assembly 78051–317, revision A for assembly into 78051–218, revision T.

(g) The thorax and knee impactor accelerometers shall have the dimensions and characteristics of Endevco Model 7231c or equivalent. Each accelerometer shall be mounted with its sensitive axis colinear with the pendulum's longitudinal centerline.

(h) The femur load cell shall have the dimensions, response characteristics, and sensitive axis locations specified in drawing 78051–265 or its equivalent and be mounted in assemblies 78051–46 and –47 for assembly into 78051–218, revision T.

(i) The outputs of acceleration and force-sensing devices installed in the dummy and in the test apparatus specified by this part are recorded in individual data channels that conform to requirements of Society of Automotive Engineers (SAE) Recommended Practice J211 Mar95, Instrumentation for Impact Tests, Parts 1 and 2. SAE J211 Mar95 sets forth the following channel classes:

- (1) Head acceleration—Class 1000
- (2) Neck forces—Class 1000
- (3) Neck moments—Class 600

(4) Neck pendulum acceleration—Class 60

(5) Thorax and thorax pendulum acceleration—Class 180

(6) Thorax deflection—Class 180

(7) Knee pendulum acceleration—Class 600

(8) Femur force—Class 600

(j) Coordinate signs for instrumentation polarity conform to the sign convention shown in the document incorporated by § 572.31(a)(5).

(k) The mountings for sensing devices shall have no resonance frequency within range of 3 times the frequency range of the applicable channel class.

(l) Limb joints are set at 1g, barely restraining the weight of the limb when it is extended horizontally. The force required to move a limb segment shall not exceed 2g throughout the range of limb motion.

(m) Performance tests of the same component, segment, assembly, or fully assembled dummy are separated in time by period of not less than 30 minutes unless otherwise noted.

(n) Surfaces of dummy components are not painted except as specified in this part or in drawings subtended by this part.

[51 FR 26701, July 25, 1986, as amended at 53 FR 8765, Mar. 17, 1988; 62 FR 27518, May 20, 1997; 63 FR 45965, Aug. 28, 1998]

### Subpart F—Side Impact Dummy 50th Percentile Male

SOURCE: 55 FR 45766, Oct. 30, 1990, unless otherwise noted.

#### § 572.40 Incorporated materials.

(a) The drawings, specifications, manual, and computer program referred to in this regulation that are not set forth in full are hereby incorporated in this part by reference. These materials are thereby made part of this regulation. The Director of the Federal Register has approved the materials incorporated by reference. For materials subject to change, only the specific version approved by the Director of the Federal Register and specified in the regulation are incorporated. A notice of any change will be published in the FEDERAL REGISTER. As a convenience

to the reader, the materials incorporated by reference are listed in the Finding Aids Table found at the end of this volume of the Code of Federal Regulations.

(b) The materials incorporated in this part by reference are available for examination in the general reference section of Docket 79-04, Docket Section, National Highway Traffic Safety Administration, room 5109, 400 Seventh St., S.W., Washington, D.C., 20590, telephone (202) 366-4949. Copies may be obtained from Reprographic Technologies, 9000 Virginia Manor Rd., Suite 210, Beltsville, MD, 20705, Telephone (301) 419-5070, Fax (301) 419-5069.

[55 FR 45766, Oct. 30, 1990, as amended at 63 FR 16140, Apr. 2, 1998]

#### § 572.41 General description.

(a) The dummy consists of component parts and component assemblies (SA-SID-M001, revision C, dated September 12, 1996, and SA-SID-M001A, revision B, dated September 12, 1996), which are described in approximately 250 drawings and specifications that are set forth in § 572.5(a) of this chapter with the following changes and additions which are described in approximately 85 drawings and specifications (incorporated by reference; see § 572.40):

(1) The head assembly consists of the assembly specified in subpart B (§ 572.6(a)) and conforms to each of the drawings subtended under drawing SA 150 M010 and drawings specified in SA-SID-M010, dated August 13, 1987.

(2) The neck assembly consists of the assembly specified in subpart B (§ 572.7(a)) and conforms to each of the drawings subtended under drawing SA 150 M020 and drawings shown in SA-SID-M010, dated August 13, 1987.

(3) The thorax assembly consists of the assembly shown as number SID-053 and conforms to each applicable drawing subtended by number SA-SID-M030 revision A, dated May 18, 1994.

(4) The lumbar spine consists of the assembly specified in subpart B (§ 572.9(a)) and conforms to drawing SA 150 M050 and drawings subtended by SA-SID-M050 revision B, dated September 12, 1996, including the addition of Lumbar Spacers-Lower SID-SM-001 and Lumbar Spacers-Upper SID-SM-002

(both dated May 12, 1994), and Washer 78051-243.

(5) The abdomen and pelvis consist of the assembly specified in subpart B of this part (§ 572.9) and conform to the drawings subtended by SA 150 M060, the drawings subtended by SA-SID-M060 revision A, dated May 18, 1994, and the drawings subtended by SA-SID-087 sheet 1 revision H, dated May 18, 1994, and SA-SID-087 sheet 2 revision H.

(6) The lower limbs consist of the assemblies specified in subpart B (§ 572.10) shown as SA 150 M080 and SA 150 M081 in Figure 1 and SA-SID-M080 and SA-SID-M081, both dated August 13, 1987, and conform to the drawings subtended by those numbers.

(b) The structural properties of the dummy are such that the dummy conforms to the requirements of this subpart in every respect both before and after being used in vehicle tests specified in Standard No 214 § 571.214 of this chapter.

(c) Disassembly, inspection, and assembly procedures; external dimensions and weight; and a dummy drawing list are set forth in the Side Impact Dummy (SID) User's Manual, dated May 1994 except for pages 7, 20 and 23, and Appendix A (consisting of replacement pages 7, 20 and 23) dated January 20, 1998 (incorporated by reference; see § 572.40).

[55 FR 45766, Oct. 30, 1990, as amended at 59 FR 52091, Oct. 14, 1994; 63 FR 16140, Apr. 2, 1998]

#### § 572.42 Thorax.

(a) When the thorax of a completely assembled dummy (SA-SID-M001A revision A, dated May 18, 1994, incorporated by reference; see § 572.40), appropriately assembled for right or left side impact, is impacted by a test probe conforming to § 572.44(a) at 14 fps in accordance with paragraph (b) of this section, the peak accelerations at the location of the accelerometers mounted on the thorax in accordance with § 572.44(b) shall be:

(1) For the accelerometer at the top of the Rib Bar on the struck side (LUR or RUR) not less than 37 g's and not more than 46 g's.

(2) For the accelerometer at the bottom of the Rib Bar on the struck side